

## REMARKS

### **Status of the claims**

Claims 1, 3, 4, 7-9, 11-14, 16, 19-22, and 25-29 are now pending in this application, with claims 1, 14, 16, 19, 25, and 26 being in independent form. Claims 1, 3, 4, 7-9, 11-14, 16, 19, 20, 22, 25, and 26 have been amended. Claims 27-29 have been added.

### **Statement of substance of interview**

On July 8, 2010, a telephone interview took place between the Examiner Jose Chen, the undersigned attorney Raymond DiPerna, the inventor Darras Hancock, and Mr. Hancock's local representative Peter Dummer. While no agreement was reached as to the claims, this response was prepared in light of what was discussed during the interview, and it is the Applicant's hope that this response will advance prosecution and facilitate allowance. The Examiner is thanked for kindly participating in the interview, and in particular for agreeing to an interview time that was very early in the day to accommodate the fact Mr. Hancock and Mr. Dummer were participating from Australia.

### **The objection to the drawings**

The drawings were objected to under 37 C.F.R. § 1.83(a) for not showing all the features of claim 9. The Examiner states on page 2 of the Office Action that "the limitations of claim 9 must be shown or the feature(s) canceled from the claim(s).

Claim 9 as amended recites attachment means including one of a liquid adhesive, a double sided adhesive tape, and mechanical means including screws and rivets. The screws

and rivets are shown in the drawings by reference numerals 9 and 10, respectively. The adhesive is shown in Fig. 5 by reference numeral 8, which refers either to a double sided adhesive tape or simply a liquid adhesive; the specification has been amended herein to clarify this point. Applicant submits that no new matter has been added by the changes to the specification.

Accordingly, all of the features of claim 9 are shown in the drawings, and withdrawal of the objection to the drawings is respectfully requested.

#### **The rejections under 35 U.S.C. § 112, 1<sup>st</sup> and 2<sup>nd</sup> paragraphs**

Claims 9 and 11 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Examiner states that the claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. More specifically, in the Office Action the Examiner states:

The claims call for attachment structure including an applied adhesive, double sided adhesive tape and mechanical means and an opaque structure being metal. However, it is not understood how the attachment means includes an applied adhesive, double-sided adhesive tape **and** mechanical means including screws rivets **and** the like (claim 9). With regard to claim 11, it is unclear how a metal structure is opaque.  
(Emphasis in the original.)

First, claim 9 has been amended herein such that it recites attachment means including *one of* a liquid adhesive, a double sided adhesive tape, and mechanical means including screws and rivets. The recitation “and the like” has also been removed.

Second, claim 11 recites “wherein said guard and said guard retaining means are formed of metallic materials.” The Examiner states that “it is unclear how a metal structure is opaque.” The Examiner’s comments are, respectfully, not understood. Applicant submits that metal structures are opaque. See, for example, this statement from the internet website Wikipedia<sup>1</sup>:

Optically speaking, metals are opaque, shiny and lustrous. This is due to the fact that visible lightwaves are not readily transmitted through the bulk of their microstructure. (Emphasis added.)

Claims 1, 3, 4, 7-9, 11-13, 14, 16, 19-22, 25, and 26 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

In particular, the Examiner states that:

It is unclear if applicant intended to claim a combination including guard members, rail fixed horizontal surface, edge since a guard member and rail are claimed with specific interconnection with a horizontal surface and edge such horizontal surface and rail not being positively claimed making the metes and bounds of the claims unclear and confusing to a potential infringer. Clarification and correction are required. Further, applicant includes remarks that are directed to the relationship of such making the scope of the claim indefinite. The expression “and the like” (claim 9) is unclear and indefinite. Further, claim(s) 11 fail(s) to recite sufficient structural elements and interconnection of the elements to positively position and define how an opaque structure is metallic so that an integral structure able to function as claimed is recited.

The claims have been carefully reviewed and amended as deemed necessary to ensure that they conform fully to the requirements of Section 112, second paragraph, with special

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<sup>1</sup><http://en.wikipedia.org/wiki/Metal#Physical>

attention to the points raised in pages 3-4 of the Office Action. Applicant also has the following comments in particular.

With respect to claim 9, the recitation “and the like” has been removed from the claim.

With respect to claim 11, Applicant submits that metal structures can be opaque, as discussed in more detail above.

It is also respectfully submitted that the first portion of the Examiner’s comments are general and vague as to which claims, and which features of which claims, the Examiner is specifically referring to. Applicant submits that it is clear, from the description and as now made specific in claim 1, that the invention is a kitchen bench top or cooktop safety guard or barrier to prevent injury and damage, especially to children, from the inadvertent dislodgement of objects, and especially hot objects and liquids, from a kitchen bench or cook top. The barrier of the invention is thus specific in its application to either a kitchen bench top or a cooktop. This is achieved by the combination of the claimed properties and height which combine to prevent children from seeing tempting objects on the far side of the barrier which could be pulled over the edge. Inherent in its property of being a barrier, the barrier further prevents adults from inadvertently pushing dangerous items over the edge.

For at least the foregoing reasons, it is believed that the rejections under Section 112, first and second paragraphs, have been obviated, and their withdrawal is therefore respectfully requested.

### **The rejections under 35 U.S.C. § 102/103**

Claims 1, 3, 4, 7, 8, 19, 20, and 25 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 6,571,498 to Cyrluk. Claims 9, 11, 13, 14, 16, and 19-22 were rejected under 35 U.S.C. § 103(a) as being obvious from Cyrluk; and claim 26, as being obvious from Cyrluk in view of U.S. Patent 3,034,153 to Sargent.

Applicant submits that independent claims 1, 14, 16, 19, 25, and 26, together with the claims dependent therefrom, are patentably distinct from the cited references for at least the following reasons.

The present invention is intended to provide a solution to a significant problem which, in Applicant's view, exists in the community at large and which was not previously addressed until the Applicant's invention. One aspect of the present invention is directed to child safety in the kitchen and provides a vertically mountable and demountable barrier or guard arrangement in which the guard member has a location, height, and material that are selected so as to present a physical and visual barrier to children but not to adults, in respect of the accidental urged dislodgement of articles or liquids over the leading edge of a fixed horizontal surface such as a kitchen benchtop or cooktop. As explained in the present application, for example at the paragraph bridging pages 7 and 8:

In use the guard element acts both to prevent liquids from flowing over the edge, or objects from accidentally being pushed over the edge of a bench top and as an impediment to small children reaching up to pull an object over the edge. In particular, a guard element arranged along the front of a cooktop located in the surface of a kitchen bench top will serve to minimize the possibility of this highly dangerous occurrence.<sup>2</sup>

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<sup>2</sup>It is of course to be understood that the references to various portions of the present application are by way of illustration and example only, and that the claims are not limited by the details shown in the portions referred to.

Accordingly, a notable function of the guard member is to provide a barrier to a child to objects on the far side of the guard member, while not acting as a barrier to an adult. Applicant submits that there is no teaching in any of the cited references, including Cyrluk, of a guard member for the prevention of dislodgement of an article or liquid, or of a guard member acting as a barrier to a child to objects on a far side of that guard member, as recited in claims 1, 14, 16, 19, 25, and 26.

Another aspect of the invention is to provide a guard member that precludes forward and backward (as opposed to vertical) disengagement from its slot. In this way, for example, small children are unable to push or pull on the guard member and have it disengage putting the child at risk.

Claim 1 is directed to a kitchen bench or cooktop safety guard system adapted for prevention of accidental urged dislodgment of an article or liquid over a leading edge of a fixed horizontal surface of said kitchen bench or cooktop.

The guard system includes a rail adapted for alignment at the leading edge and for affixing to the surface, wherein the rail has a base and side walls extending vertically above the base a certain distance, thereby to present a substantially vertically oriented slot for vertical slidable engagement of a guard member therein. The distance is such that the slot is of such depth that horizontal forward and backward disengagement of the guard member is precluded.

The guard member is of substantially rectangular cross section in both longitudinal and lateral directions, and is adapted for substantially vertical engagement and disengagement with respect to the slot or the rail. The guard member is also of such material and height that, when in use, said guard member acts as a physical and visual barrier to objects on a far side of

said guard member to a child but not to an adult, wherein the child is approximately 41 inches or less in height. The guard member is also opaque.

Applicant notes that none of the citations raised by the Examiner, including Cyrluk, is applicable to forming a guard or barrier at the edge of a kitchen bench top or cooktop.

Cyrluk relates to a shelf-front assembly for labeling and retaining products. The Examiner states the following at page 4 of the Office Action:

The patent to Cyrluk teaches structure as claimed including a guard (200), rail structure (122), the height and material of the guard provide a barrier, the material is opaque and the guard being demountable.

1. Applicant notes that Cyrluk has a shelf-front assembly for a shelf which comprises an extrusion (e.g., “a first extruded plastic strip”; see the abstract) provided on its upper surface with retaining elements. A second extrusion (e.g., “a second extruded plastic strip”) includes “an upward wall extending up from the generally horizontal floor.” (See, for example, Figure 1 of the patent.) The patent goes on to discuss a number of ways in which these elements may be configured and interact. The purpose of these components in each of the described embodiments is to provide for both a label-retaining means and a restraining means for application to a shelf. The first component provides for the label-carrying function as well as providing the support and retention of the “upward wall.” However, the function of this wall is purely for, in the words of the Background, “the organization of merchandise on shelves for retail, display, or the like,” and further is “an improved shelf-front assembly for labeling and/or retaining products.” No special features or other functions are ascribed to this retaining wall and it is clear that it is not intended as a safety barrier in the manner of the present invention nor to prevent visibility of products retained on the shelf. It is noted that

Cyrluk states that “retaining wall 210 is preferably transparent or clear to facilitate viewing of product on the shelf” (see column 6, line 40), so that, at least in a preferred embodiment, it is intentionally not a visual barrier. Cyrluk does go on to state at column 6, line 42 that the retaining wall 210 “can also be opaque” -- however, whether the retaining wall 210 of Cyrluk is clear or opaque, a child can still see the objects on its shelf.

Thus, the Cyrluk assembly is not a safety barrier for children; it is preferably transparent and it is not strong enough to withstand horizontal pushing or pulling from a child as the claimed invention is, as explained in more detail below. If a child were to pull on the barrier of Cyrluk it would tend to disengage, and thus is not suitable for use in the claimed invention.

The Cyrluk assembly, being a shelf-front assembly for labeling and retaining products, is of course not concerned with child safety or the like, or with preventing accidental urged dislodgment of articles or liquids over a leading edge of a fixed horizontal surface, as in claim 1. Therefore, the retaining wall member 200 is disengaged by pulling or pushing in the horizontal direction, *unlike the guard of claim 1*. Note column 8, lines 22-26 of Cyrluk, which states: “In order to remove the retaining wall member 200, the member 200 can be rotated in a clockwise direction CW (disengaging the snap-fit connection, when used) and the rear end 221 can be pulled out from under the overhanging member 130.” (Emphasis added.) This is contrary to the system of claim 1, which precludes forward and backward disengagement of the guard member. Specifically, as noted above, claim 1 has been amended in part to recite:

...a rail adapted for alignment at said leading edge and for affixing to said surface, wherein said rail has a base and side walls extending vertically above the base a certain distance, thereby to present a substantially vertically oriented slot for vertical slidable engagement of a guard member therein, said distance being such that said slot is of such depth that horizontal forward and backward disengagement of said guard member is precluded, said guard member being of substantially rectangular cross section in both longitudinal and lateral directions, and said guard member adapted for substantially vertical engagement and disengagement with respect to said slot or said rail.

As seen, then, claim 1 as amended recites the structure of a rail having a base and side walls extending vertically above the base a certain distance, the distance being such that the horizontal forward and backward disengagement of the guard member is precluded. Applicant notes that this language was drafted having in mind the Examiner's helpful comments during the above-noted telephone interview. This structure of amended claim 1 results in the guard member being adapted for substantially vertical engagement and disengagement with respect to the slot or rail, as recited in claim 1. As stated in the present application at page 11, lines 7-11 for example: "This arrangement ensures that the guard member 23 cannot be disengaged by a lateral pulling [or pushing] motion as might be expected by a child. On the other hand vertical disengagement is relatively easy for an adult for the purposes of cleaning and the like." In addition, an added benefit of the vertical engagement is that a child cannot reach high enough to vertically disengage the guard member of claim 1. None of the embodiments shown in Cyrluk teach or suggest such vertical sliding engagement in a slot. The Cyrluk structure cannot perform what is claimed. For at least this reason, claim 1 is seen to be clearly allowable over the assembly of Cyrluk.

The retaining wall member 200 of Cyrluk does not engage and disengage in a substantially vertical manner as does the guard member of claim 1. Note Fig. 1(A) of Cyrluk, for example. That figure shows "overhanging member 130... extend[ing] over a rear end 221

of the floor 220 when attached” (see column 7, lines 27-30 of Cyrluk). Fig. 1(A) also shows “an upward protrusion 140 that extends in front of the front end 222 of the floor 220 when attached” (see column 7, lines 30-35 of Cyrluk). Accordingly, in Cyrluk, to engage and disengage the retaining wall member 200 to the holder member 100, the rear end 221 of the floor 220 is slid under the overhanging member 130 and the floor 220 is lowered to a position in between the upward protrusion 140 and the overhanging member 130.” This is not substantial vertical engagement but is, rather, substantially horizontal sliding engagement, and overhanging members 130 and 140 operate to prevent vertical disengagement, meaning that the retaining wall member 200 is disengaged by pulling or pushing in the horizontal direction CW (as explained above), *unlike the guard of claim 1*. All of the embodiments of Cyrluk have overhanging members which prevent vertical engagement and disengagement. The Examiner pointed to Fig. 9(H) during the telephone interview, but that Figure also shows an overhanging member 100T.

Accordingly, claim 1 is seen to be patentable over Cyrluk for at least the above reasons.

Independent claims 16, 19, and 26 each recite features which are similar in many relevant respects to those discussed above in connection with claim 1. Accordingly, claims 16, 19, and 26 are believed to be patentable for at least the same reasons as discussed above in connection with claim 1.

2. Claim 1 recites in the preamble “a kitchen bench or cooktop safety guard adapted for prevention of accidental urged dislodgment of an article or liquid over a leading edge of a fixed horizontal surface of said kitchen bench or cooktop.” Nothing in Cyrluk would teach or suggest a “kitchen bench or cooktop safety guard...”. Applicant submits that the language in the preamble of claim 1 is to be given patentable weight. According to MPEP 2111.02:

The determination of whether a preamble limits a claim is made on a case-by-case basis in light of the facts in each case; there is no litmus test defining when a preamble limits the scope of a claim. *Catalina Mktg. Int'l v. Coolsavings.com, Inc.*, 289 F.3d 801, 808, 62 USPQ2d 1781, 1785 (Fed. Cir. 2002)... ‘[A] claim preamble has the import that the claim as a whole suggests for it.’ *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620, 34 USPQ2d 1816, 1820 (Fed. Cir. 1995). ‘If the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is ‘necessary to give life, meaning, and vitality’ to the claim, then the claim preamble should be construed as if in the balance of the claim.’ *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165-66 (Fed. Cir. 1999).

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Any terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation. See, e.g., *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989) (The determination of whether preamble recitations are structural limitations can be resolved only on review of the entirety of the application ‘to gain an understanding of what the inventors actually invented and intended to encompass by the claim.’); *Pac-Tec Inc. v. Amerace Corp.*, 903 F.2d 796, 801, 14 USPQ2d 1871, 1876 (Fed. Cir. 1990) (determining that preamble language that constitutes a structural limitation is actually part of the claimed invention).

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The claim preamble must be read in the context of the entire claim. The determination of whether preamble recitations are structural limitations or mere statements of purpose or use ‘can be resolved only on review of the entirety of the [record] to gain an understanding of what the inventors actually invented and intended to encompass by the claim.’ *Corning Glass Works*, 868 F.2d at 1257, 9 USPQ2d at 1966.

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During examination, statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the recited purpose or intended use results in a structural difference (or, in the case of process claims, manipulative difference) between the claimed invention and the prior art. If so, the recitation serves to limit the claim. (Emphasis added.)

See also, for example *Intellectual Science and Tech. v. Sony Electronics*, 91 USPQ2d 1123 (Fed. Cir. 2009), in which the preamble had a limiting effect.

The preamble of claim 1 recites the structure of a kitchen bench or cooktop safety guard adapted for prevention of accidental urged dislodgment of an article or liquid over a leading edge of a fixed horizontal surface of the kitchen bench or cooktop. It is submitted that this structure gives “life, meaning, and vitality” to the claim and therefore must be treated as a claim limitation, and thus clearly distinguishes over Cyrluk for at least this reason alone. Protecting children, for example from accidental urged dislodgment of an article or liquid from a kitchen bench or cooktop, is the essence of Applicant’s invention. The body of the claim recites the guard member, which, from the preamble, is a kitchen bench or cooktop safety guard.

Accordingly, the statement in the preamble that the guard is “a kitchen bench or cooktop safety guard” and is “adapted for prevention of accidental urged dislodgment of an article or liquid over a leading edge of a fixed horizontal surface of the kitchen bench or cooktop” is not merely a statement of purpose or intended use, and indeed actually results in a patentable difference between the claimed invention and the prior art. Cyrluk, as noted, is a shelf-front assembly, and does not teach or suggest a safety guard for prevention of accidental urged dislodgment of an article or liquid over a leading edge of a fixed horizontal surface of a kitchen bench or cooktop. Applicant submits that claim 1 is patentable over Cyrluk for at least these reasons as well.

3. Claim 1 also recites that “said guard member is of such material and height that, when in use, the guard acts as a physical and visual barrier to objects on a far side of said guard member to a child but not to an adult, wherein the child is approximately 41 inches or less in height.”

There are numerous references available on the Internet, known of course to persons having ordinary skill in the art, which provide standard heights for children based on the age of the child. As one example, Appendix A shows a typical pediatric growth chart<sup>3</sup> which lists the following approximate ages/heights:

2 years old:	35 inches
3 years old:	38 inches
4 years old:	41 inches

Claim 1, as noted above, recites wherein the child is approximately 41 inches or less in height. As seen, this recitation is consistent with the knowledge of a person having ordinary skill in the art.

With further regard to the recitations of “child” and “adult” in the claims, it is well settled<sup>4</sup> that:

**I. THE WORDS OF A CLAIM MUST BE GIVEN THEIR ‘PLAIN MEANING’ UNLESS SUCH MEANING IS INCONSISTENT WITH THE SPECIFICATION**

And:

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<sup>3</sup>See, e.g., [http://www.nutropin.com/patient/3\\_5\\_3\\_growth\\_charts.jsp](http://www.nutropin.com/patient/3_5_3_growth_charts.jsp).

<sup>4</sup>See, e.g., MPEP 2111.01.

### III. 'PLAIN MEANING' REFERS TO THE ORDINARY AND CUSTOMARY MEANING GIVEN TO THE TERM BY THOSE OF ORDINARY SKILL IN THE ART

'[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, *i.e.*, as of the effective filing date of the patent application.' *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313, 75 USPQ2d 1321, 1326 (Fed. Cir. 2005) (*en banc*). *Sunrace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1302, 67 USPQ2d 1438, 1441 (Fed. Cir. 2003); *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298 67 USPQ2d 1132, 1136 (Fed. Cir. 2003).

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The ordinary and customary meaning of a term may be evidenced by a variety of sources, including 'the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.' *Phillips v. AWH Corp.*, 415 F.3d at 1314, 75 USPQ2d at 1327.

Accordingly, Applicant submits that the terms "child" and "adult" should be given their plain meaning, such that adults are generally much taller than children, relatively speaking, and can naturally view things that children cannot; a child's height is made even more clear in claim 1 by the specific recitation that "the child is approximately 41 inches or less in height," which recitation is supported by the showing above that four year olds are universally considered "children" and that four year olds typically are in standard height ranges. Note also, of course, that a child's sight line is lower than the child's height.

See also Appendix B, which is from a *Primary Steel Engineering Design Services* drawing Office Manual, which shows a "standard human figure" at 1820 mm (6 feet) tall. See also Appendix C, which is an example provided by Wikipedia<sup>5</sup>, listing average heights for adults around the world. Wikipedia lists the average American adult male (20 years and

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<sup>5</sup>[http://en.wikipedia.org/wiki/Human\\_height#Average\\_height\\_around\\_the\\_world](http://en.wikipedia.org/wiki/Human_height#Average_height_around_the_world)

older) at 5 feet, 9.5 inches, and the average American adult female (20 years and older) at 5 feet, 4 inches, which of course is much taller than virtually any child of four years old or less.

No matter the specific measurement given for the average adult, the important point is that a person having ordinary skill in the art would understand that adults are generally much taller than children and would therefore understand the scope of claim 1 and how to make and use the kitchen bench or cooktop safety guard of the claimed invention; in essence, these Appendices show what age a person having ordinary skill in the art would understand the claimed invention is directed to. Note also Appendix D, which shows the planning of a standard kitchen bench and gives a standard working height of between 850 and 1050 mm (33 and 41 inches). And see Figure 7 of the present application, for example, which shows the adult and child sight lines with respect to the guard and the objects behind the guard. The description corresponding to Figure 7 (see the paragraph bridging pages 9 and 10) states:

With reference to FIG. 7 a bench guard 10 in accordance with any of the previously described embodiments is illustrated in position on a stove or bench surface 11 and is arranged to have barrier height H selected such that when viewed from the eyes of a child at child head height on a floor 12 adjacent the bench or cooktop 11 the guard 10 acts as a visual barrier to the child seeing items beyond the barrier on the cook top or bench top 11. The barrier height H is further selected so that it is not so high that it impedes the sight line of an adult over the top of the guard 10. The end result is that the child is not able to see items on the other side of the guard whereby the child cannot become attracted to those items. Conversely the adult sight line is not impeded so that the adult may still operate effectively in a kitchen or like environment with the items such as saucepan 13 located on the stove or bench top 11.

In addition to the distinctions noted above, nothing in Cyrluk would teach or suggest the feature of claim 1 in which “said guard member is of such material and height that, when in use, said guard member acts as a physical and visual barrier to objects on a far side of the

guard to a child but not to an adult, wherein the child is approximately 41 inches or less in height.” Cyrluk provides no teaching of such selection of material and height for its retaining wall member 200, which member 200 the Examiner considers to be a claimed “guard.” It is well settled that:

‘A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.’ *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). MPEP 2131.

For at least the foregoing reasons, claim 1 is seen to be clearly allowable over Cyrluk.

Independent claims 14, 16, 19, 25, and 26 each recite features which are similar in many relevant respects to those discussed above in connection with claim 1. Accordingly, claims 14, 16, 19, 25, and 26 are believed to be patentable for at least the same reasons as discussed above in connection with claim 1.

As to claim 26 requiring a plurality of guard members each having a different height, the Examiner concedes at page 6 of the Office Action that Cyrluk doesn’t teach that the height of each guard may be different. However, the Examiner proceeds to apply Sargent to the rejection, stating at page 6 that:

[T]he patent to Sargent teaches the use of providing different height of guard members to be old. It would have been obvious and well within the level of ordinary skill in the art at the time the invention was made to modify the structure of Lindstrom to include guard members of different heights, as taught by Sargent since such structures are used in the same intended purpose and would have been a predictable result thereby providing structure as claimed. (Emphasis added.)

First, the Examiner cites Lindstrom here when he apparently means to cite Cyrluk. In fact, the above-quoted paragraph is otherwise exactly the same as presented in the previous Office Action.

With respect, it is difficult to see how the disclosure of Sargent added to Cyrluk could lead to the barrier or guard of the present invention. Sargent teaches no more than barriers around three sides of a baby change table. It is, Applicant believes, too wide a separation in function and application for the barriers of the change table of Sargent, added to the radically different structures and application of Cyrluk, to lead to the visual and physical barrier at the edge of a kitchen bench top or cooktop.

[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. MPEP 2141.III, quoting *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 82 USPQ2d 1385, 1396 (2007). (Emphasis added.)

Cyrluk does not refer to benches at all. It is directed to display shelving - a completely different area of technology to that of the present application. The various configurations of the device of Cyrluk are for a shelf front "holder member" and "retaining wall" attachment to the holder member. There is clearly no disclosure or teaching in Cyrluk towards the retaining wall acting as a kitchen bench top or cook top or as a physical and visual barrier to visualization by small children.

Moreover, Applicant respectfully submits that the reasoning offered by the Examiner for combining Cyrluk and Sargent is simply inadequate. As should be readily apparent from reading the above statement of the Examiner, the Examiner's reasoning is entirely conclusory. The Examiner states vaguely that "such structures are used in the same intended purpose," but does not explain what that "same intended purpose" is. The Examiner speaks vaguely of a "predictable result" but does not explain what that "predictable result" is. As noted above, *KSR* provides that "rejections on obviousness cannot be sustained by mere conclusory statements" and "instead there must be some articulated reasoning with some rational

underpinning to support the legal conclusion of obviousness.” As also explained above MPEP 2142 provides that a rejection under 35 U.S.C. 103 must be supported by “the clear articulation of the reason why the claimed invention would have been obvious” (emphasis added). It is submitted that the Examiner has not met that burden for supporting the legal conclusion of obviousness.

Sargent relates to an infant changing table having guard means surrounding the table top to prevent the infant from rolling off. At least one of the sides is adapted to be raised or lowered to permit the attendant to attend to the infant without being subjected to the inconvenience of having to reach over an interfering rail or side portion and which permits the side to be raised into the guarding, confining, or retaining position if necessity requires the infant to be momentarily left unattended. (See column 1, lines 13-22.)

Once again it is noted that the Examiner does not set out any specific reasoning for combining Cyrluk and Sargent. These two patents are directed to different problems. Cyrluk’s shelf-front assembly is directed to labeling and displaying products for retail, and to (see column 1, lines 64-67) “an improved system by which labels and/or front retaining walls can be securely, quickly and easily changed to accommodate different or new product types”; the retaining wall member 200 of Cyrluk does not at all contemplate holding an infant, nor does it contemplate protecting an infant in the environment of a kitchen. Sargent’s objective is to hold an infant and permit the attendant to more easily access the infant without being inconvenienced by the rails. Like Cyrluk, Sargent’s patent does not contemplate protecting a child in a kitchen environment from burns and scolds. Nor does Sargent’s patent teach an improved system by which “retaining walls can be securely, quickly and easily changed to accommodate different or new product types” (see column 1, lines 65-67 of Cyrluk). There is

therefore no rational basis for applying the teaching of Sargent to Cyrluk since the problems that Sargent seeks to cure simply do not exist in Cyrluk's apparatus. Similarly, there is no rational basis for applying the teaching of Cyrluk to Sargent.

For at least the foregoing reasons, claim 26 is seen to be clearly allowable over Cyrluk and Sargent for at least these reasons as well.

### **The dependent claims**

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

### **Comments on other references of record**

For completeness, Applicant comments briefly on the References Cited, none of which discloses a kitchen bench top or cook top barrier.

#### US2694614 (Dent)

Dent teaches, not barriers at the edge of a fixed horizontal surface) but dividers for a shared work desk. There is no suggestion of the structure, function, or application of the barrier of the present invention.

US 2840243 (Brinker)

Neither does Brinker disclose a barrier at the edge of a surface, but a shelf which may be slid into position adjacent a partition. There is no teaching of the function of preventing dislodgement of articles off the shelf, the end wall 27 arguably being more of a stiffening support.

US 3110934 (Triplett)

Triplet similarly teaches a shelf arrangement provided with privacy screens which divide the shelf into three telephone hutches, There is no barrier to prevent dislodgement of articles, the leading edge of the shelf being unprotected.

US 3636890 (Huff)

Like Dent above, Huff discloses a divider structure for work spaces (carrels). There are no barriers other than those providing privacy, with no protection of the leading edges of the work spaces.

US 4314700 (Dylag)

In this citation also the disclosure is of privacy separation barriers, in this instance for card games, There is no disclosure of a safety barrier for prevention of dislodgement of articles.

US 5803276 (Vogler)

This is a shelf divider, not a barrier for the prevention of dislodgement of articles.

US 7117802 (Hoke)

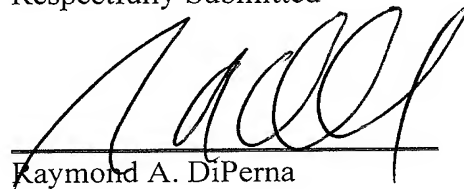
Again, there is no disclosure of any barrier intended for prevention of dislodgment of articles from any surface.

**Conclusion**

In summary, it is respectfully submitted that none of the prior art cited discloses, or teaches towards, the functionality or specific arrangement of the present invention. None is directed to the prevention of accidental dislodgment of items over the edge of a kitchen bench or cooktop, nor are any configured so as to prevent viewing of items on the bench or cooktop to a child but not to an adult.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Respectfully Submitted

A handwritten signature in black ink, appearing to read 'Raymond A. DiPerna', is written over a horizontal line.

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# APPENDIX A

**Nutropin**

[somatropin (DNA origin) for injection]

**Nutropin**  
Access Solutions™

**Resource**  
Library

**Patient/Parent**  
Administration  
Instructions

**Prescribing**  
Information

**Site**  
Map

healthcare professionals

patients

SEARCH



## Nutropin Information

## Tools and Resources

## Pediatric Growth Hormone Deficiency

Signs of Growth Failure

Evaluation Tools

Pediatric Growth Charts

Growth Velocity Chart

Treatment Options

Frequently Asked Questions

Other Resources

Idiopathic Short Stature

## Adult Growth Hormone Deficiency

## Turner Syndrome

## Chronic Renal Insufficiency

## Important Safety Information

## Resource Library

## Find out more about:

Pediatric Growth Charts

Growth Velocity Chart

A Real-life Growth Hormone Journey (video)



## Pediatric Growth Charts

### Using pediatric growth charts and growth percentile calculators

Pediatric growth charts are simple grids that allow you to plot a child's height, according to his or her age. On this page, you'll learn how to read growth charts. Then, you'll have the opportunity to [enter a child's age and height](#) to find out how the child's height compares with sample heights of other children the same age.

A child's height and weight are often measured and marked on his or her growth chart as part of every visit to a healthcare provider. Children under age 3 are usually measured at least every 6 months; children over 3, every year. If there is any concern about growth, measurements may be made as often as every 3 months until a growth pattern becomes clear.

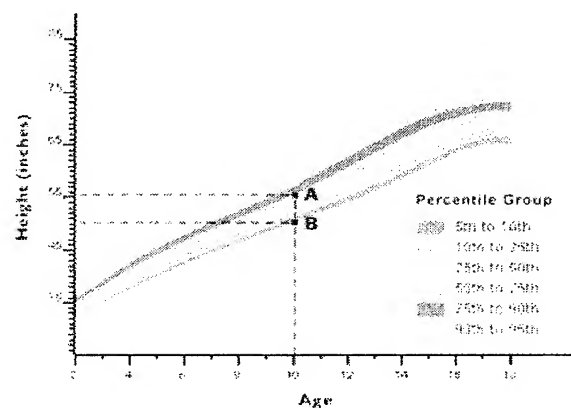
### Percentiles

The most widely used growth charts are constructed by measuring many boys and girls of all ages and breaking the range of their heights and weights into percentiles. These percentiles are represented on the growth charts below by the colored bands. Age in years is marked along the bottom of the chart. Height in inches is marked along the left side. The 50th percentile is the average height for any given age.

### Using a pediatric growth chart

To use the chart, find the child's age along the bottom and draw a straight line going up, parallel to the right and left sides of the chart. Then find the child's height along the side and draw a line across, marking the point where the child's age line and height line cross.

By looking at the boys' growth chart above, for example, we can tell that a 10-year-old boy who is 55 inches tall is average size (50th percentile) for his age (point A on the growth chart). A 10-year-old boy who is only 50 inches tall, however, falls at about the 5th percentile (point B on the growth chart).



A pediatric growth chart shows us how a child's height compares with those of other children the same age. It also shows us a child's growth pattern over time. After 2 years of age, most children maintain steady growth throughout childhood, along one of the percentile lines. Children over 2 years of age who move away from their established growth curve should be thoroughly evaluated by a healthcare provider, no matter how tall they are.

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*Appendix B*  
PRIMARY STEEL  
ENGINEERING DESIGN SERVICES  
WOLLONGONG  
DRAWING OFFICE MANUAL

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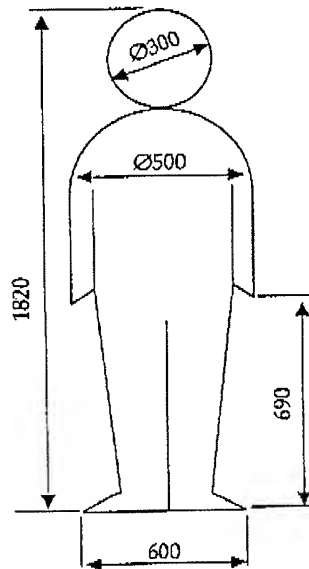
## 24. STANDARD HUMAN FIGURE

Refer to BHP SPPD Group Engineering Reference Manual, sheet 4.1.2.

Human figure standing to be shown on arrangement drawings, to correct scale at access locations where:-

1. Fixed headroom is less than minimum standard.
2. Clearance restrictions exist between structures and moving parts of cranes or any equipment running on rails.
3. Where a human figure will give a sense of scale/proportion to the drawing.

Reference AS 1657.



# Human height

APPENDIX C

From Wikipedia, the free encyclopedia

**Human height** is the distance from the bottom of the feet to the top of the head in a human body standing erect.

When populations share genetic background and environmental factors, average height is frequently characteristic within the group. Exceptional height variation (around 20% deviation from average) within such a population is usually due to gigantism or dwarfism; which are medical conditions due to specific genes or to endocrine abnormalities<sup>[*citation needed*]</sup>.

In regions of extreme poverty or prolonged warfare, environmental factors like malnutrition during childhood or adolescence may account for marked reductions in adult stature even without the presence of any of these medical conditions. This is one reason that immigrant populations from regions of extreme poverty to regions of plenty may show an increase in stature, despite sharing the same gene pool.<sup>[*citation needed*]</sup>

## Contents

- 1 Average height around the world
- 2 Determinants of growth and height
- 3 Process of growth
- 4 Height abnormalities
- 5 Role of an individual's height
- 6 Sports
  - 6.1 Basketball
  - 6.2 Weightlifting
  - 6.3 Australian football
  - 6.4 Football (Association Football)
  - 6.5 Cricket
  - 6.6 Rowing
  - 6.7 Rugby union
  - 6.8 Rugby league
  - 6.9 American football (gridiron)
  - 6.10 Baseball
  - 6.11 Tennis
  - 6.12 Ice hockey
  - 6.13 Amateur Wrestling
  - 6.14 Sumo
  - 6.15 Swimming
  - 6.16 Artistic Gymnastics
  - 6.17 Fencing
  - 6.18 MMA
- 7 History of human height
- 8 See also

- 9 Bibliography
- 9.1 References
- 10 External links

## Average height around the world

The average height for each sex within a population is significantly different, with men being (on average) taller than women. Women ordinarily reach their greatest height at a younger age than men, because puberty generally occurs earlier in women than in men. Vertical growth stops when the long bones stop lengthening, which occurs with the closure of epiphyseal plates. These plates are bone growth centers that disappear ("close") under the hormonal surges brought about by the completion of puberty. Adult height for one sex in a particular ethnic group follows more or less a normal distribution.

Adult height between populations often differs significantly, as presented in detail in the chart below. For example, the average height of women from the Czech Republic is greater than that of men from Malawi. This may be caused by genetic differences, childhood lifestyle differences (nutrition, sleep patterns, physical labor), or both.

At 2.57 m (8 ft 5 in), Leonid Stadnyk, of Zhytomyr Oblast, Ukraine, is believed to be the world's tallest living man, although his height is disputed because of his refusal to be measured. The current proven tallest man is Sultan Kösen, of Turkey, who stands at 2.47 m (8 ft 1 in), overtaking previous world-record holder Bao Xishun, of Inner Mongolia, China, who is 2.36 m (7 ft 9 in) (He Pingping, the former shortest man in the world, was also from Inner Mongolia). The tallest man in modern history was Robert Pershing Wadlow (1918–1940), from Illinois, in the United States, who 2.72 m (8 ft 11 in) at the time of his death. Until her death in 2008, Sandy Allen was the tallest woman in the world, at 2.32 m (7 ft 7½ in). Yao Defen of China is claimed to be the tallest living woman in the world at 2.33 m (7 ft 7½ in), but this is not confirmed by the Guinness Book of World Records. But ave. height for a girl is 5'9.

The maximal height that a person attains in adulthood is not maintained throughout a long life.

<sup>[*citation needed*]</sup> Depending on sex, genetic, and environmental factors, shrinkage of stature may begin in middle age in some individuals but is universal in the extremely aged. This decrease in height is due to such factors as decreased height of inter-vertebral discs because of desiccation, atrophy of soft tissues, and postural changes secondary to degenerative disease.

Below are average adult heights by country/geographical region. (The original studies and sources should be consulted for details on methodology and the exact populations measured, surveyed, or considered.)

Country/Region	Average male height	Average female height	Sample population / age range	Methodology	Year	Source
Argentina	1.745 m (5 ft 8½ in)	1.610 m (5 ft 3½ in)	19	Measured	1998–2001	[1]
Australia	1.748 m (5 ft 9 in)	1.634 m (5 ft 4½ in)	18+	Measured	1995	[2]

Australia	1.784 m (5 ft 10 in)	1.645 m (5 ft 5 in)	18–24	Measured	1995	[2]
Austria	1.796 m (5 ft 10½ in)	1.671 m (5 ft 6 in)	21–25	Self Reported	1997–2002	[3]
Azerbaijan	1.718 m (5 ft 7½ in)	1.654 m (5 ft 5 in)	16+	Measured	2005	[4]
Bahrain	1.651 m (5 ft 5 in)	1.542 m (5 ft ½ in)	19+	Measured	2002	[5]
Belgium	1.795 m (5 ft 10½ in)	1.678 m (5 ft 6 in)	21–25	Self Reported	1997–2002	[3]
Brazil	1.690 m (5 ft 6½ in)	1.580 m (5 ft 2 in)	21–65	Measured	2003	[6][7]
Bulgaria	1.75 m (5 ft 9 in)	1.63 m (5 ft 4 in)		Measured	2010	[8]
Cameroon	1.706 m (5 ft 7 in)	1.613 m (5 ft 3½ in)	Urban adults	Measured	2003	[9]
Canada	1.736 m (5 ft 8½ in)	1.595 m (5 ft 3 in)	25+	Measured	2005	[10]
Canada	1.760 m (5 ft 9½ in)	1.633 m (5 ft 4½ in)	25–44	Measured	2005	[10]
Chile	1.692 m (5 ft 6½ in)	1.556 m (5 ft 1½ in)	17 and over	Measured	2003	[11]
Chile	1.720 m (5 ft 7½ in)	1.589 m (5 ft 2½ in)	17–24	Measured	2003	[11]
Chile	1.698 m (5 ft 7 in)	1.566 m (5 ft 1½ in)	25–44	Measured	2003	[11]
Chile	1.678 m (5 ft 6 in)	1.540 m (5 ft ½ in)	45–64	Measured	2003	[11]
Chile	1.641 m (5 ft 4½ in)	1.506 m (4 ft 11½ in)	Over 65	Measured	2003	[11]
China (PRC)	1.702 m (5 ft 7 in)	1.586 m (5 ft 2½ in)	Urban, 17	Measured	2002	[12]
China (PRC)	1.663 m (5 ft 5½ in)	1.570 m (5 ft 2 in)	Rural, 17	Measured	2002	[12]
Colombia	1.706 m (5 ft 7 in)	1.587 m (5 ft 2½ in)	18–22	Measured	2002	[13]
Côte d'Ivoire	1.701 m (5 ft 7 in)	1.591 m (5 ft 2½ in)	25–29	Measured	1985–1987	[14]

Denmark	1.803 m (5 ft 11 in)		Conscripts, 18–19	Measured	2006	[15]
Dinaric Alps	1.856 m (6 ft 1 in)	1.710 m (5 ft 7½ in)	17	Measured	2005	[16]
Estonia	1.791 m (5 ft 10½ in)		17		2003	[17]
Finland	1.800 m (5 ft 11 in)	1.660 m (5 ft 5½ in)	25–34	Self-reported	2004	[18]
France	1.741 m (5 ft 8½ in)	1.619 m (5 ft 3½ in)	20+	Measured	2001	[19]
France	1.770 m (5 ft 9½ in)	1.646 m (5 ft 5 in)	20–29	Measured	2001	[19]
Ghana	1.695 m (5 ft 6½ in)	1.585 m (5 ft 2½ in)	25–29	Measured	1987–1989	[14]
Gambia	1.680 m (5 ft 6 in)	1.578 m (5 ft 2 in)	Rural, 21–49	Measured	1950–1974	[20]
Germany	1.780 m (5 ft 10 in)	1.650 m (5 ft 5 in)	Adults	Self-reported	2005	[21]
Germany	1.810 m (5 ft 11½ in)	1.670 m (5 ft 5½ in)	18–19	Self-reported	2005	[21]
Greece	1.781 m (5 ft 10 in)		Conscripts, 18–26	Measured	2006–2007	[22]
Hong Kong	1.717 m (5 ft 7½ in)	1.587 m (5 ft 2½ in)	18	Measured	2006	[23]
Hungary	1.760 m (5 ft 9½ in)	1.640 m (5 ft 4½ in)	Adults	Measured	2000s	[24]
India	1.645 m (5 ft 5 in)	1.520 m (4 ft 12 in)	20	Measured	2005–2006	[25][26]
India	1.612 m (5 ft 3½ in)	1.521 m (4 ft 12 in)	Rural, 17+	Measured	2007	[27]
Indonesia	1.580 m (5 ft 2 in)	1.470 m (4 ft 10 in)	50+	Self-reported	1997	[28]
Indonesia – East Java	1.624 m (5 ft 4 in)	1.513 m (4 ft 11½ in)	Urban, 19–23	Measured	1995	[29]
Iran	1.703 m (5 ft 7 in)	1.572 m (5 ft 2 in)	21+	Measured	2005	[30]
Iran	1.734 m (5 ft 8½ in)	1.598 m (5 ft 3 in)	21–25	Measured	2005	[30]
Iraq - Baghdad	1.654 m (5 ft 5 in)	1.558 m (5 ft 1½ in)	18–44	Measured	1999–2000	[31]

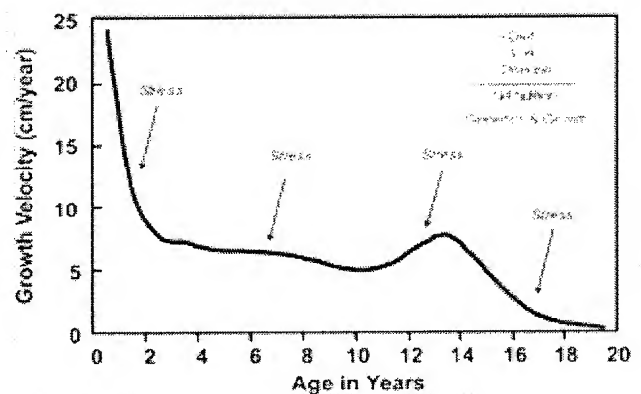
Ireland	1.774 m (5 ft 10 in)	1.644 m (5 ft 4½ in)	21-25	Self Reported	1997–2002	[3]
Israel	1.756 m (5 ft 9 in)	1.628 m (5 ft 4 in)	21	Measured	1980–2000	[32]
Italy	1.760 m (5 ft 9½ in)	1.650 m (5 ft 5 in)	18-40	Measured	2005	[33]
Jamaica	1.718 m (5 ft 7½ in)	1.608 m (5 ft 3½ in)	25–74	Measured	1994–1996	[34]
Japan	1.715 m (5 ft 7½ in)	1.580 m (5 ft 2 in)	19	Measured	2006	[35]
Lithuania	1.763 m (5 ft 9½ in)		Conscripts, 19–25	Measured	2006	[36]
Malaysia	1.647 m (5 ft 5 in)	1.533 m (5 ft ½ in)	20+	Measured	1996	[37]
Malta	1.699 m (5 ft 7 in)	1.599 m (5 ft 3 in)	Adults	Self-reported	2003	[38]
Malta	1.752 m (5 ft 9 in)	1.638 m (5 ft 4½ in)	25–34	Self-reported	2003	[38]
Malawi	1.660 m (5 ft 5½ in)	1.550 m (5 ft 1 in)	Urban, 16–60	Measured	2000	[39]
Mali	1.713 m (5 ft 7½ in)	1.604 m (5 ft 3 in)	Rural adults	Measured	1992	[40]
Mexico – Morelos	1.670 m (5 ft 5½ in)	1.550 m (5 ft 1 in)	Adults	Self-reported	1998	[41]
Mexico	1.630 m (5 ft 4 in)	1.510 m (4 ft 11½ in)	50+	Measured	2001	[42]
Mongolia	1.684 m (5 ft 6½ in)	1.577 m (5 ft 2 in)	25–34	Measured	2006	[43]
Netherlands	1.808 m (5 ft 11 in)	1.678 m (5 ft 6 in)	20+	Self-reported	2008	[44]
Netherlands	1.843 m (6 ft ½ in)	1.702 m (5 ft 7 in)	25–34	Self-reported	2008	[44]
New Zealand	1.770 m (5 ft 9½ in)	1.650 m (5 ft 5 in)	19–45	Estimates	1993–2007	[45]
Nepal	1.630 m (5 ft 4 in)	1.524 m (5 ft 0 in)	45–65	Measured	1993–2007	
Nigeria	1.638 m (5 ft 4½ in)	1.578 m (5 ft 2 in)	18–74	Measured	1994–1996	[34]

Norway	1.797 m (5 ft 10½ in)	1.672 m (5 ft 6 in)	Conscripts, 18–19	Measured	2008	[46]
Peru	1.640 m (5 ft 4½ in)	1.510 m (4 ft 11½ in)	20+	Measured	2005	[47]
Philippines	1.619 m (5 ft 3½ in)	1.502 m (4 ft 11 in)	20+	Measured	2003	[48]
Philippines	1.634 m (5 ft 4½ in)	1.517 m (4 ft 11½ in)	20-39	Measured	2003	[48]
Portugal	1.728 m (5 ft 8 in)		Conscripts, 21	Measured	1998–99	[49]
Singapore	1.706 m (5 ft 7 in)	1.600 m (5 ft 3 in)	17–25		2003	[50]
South Africa	1.690 m (5 ft 6½ in)	1.590 m (5 ft 2½ in)	25–34	Measured	1998	[51]
South Korea	1.739 m (5 ft 8½ in)	1.611 m (5 ft 3½ in)	19	Measured	2006	[52]
Spain	1.761 m (5 ft 9½ in)	1.655 m (5 ft 5 in)	21-25	Self Reported	1997–2002	[3]
Spain	1.780 m (5 ft 10 in)	1.650 m (5 ft 5 in)	21	Measured	1998–2000	[53]
Sweden	1.779 m (5 ft 10 in)	1.646 m (5 ft 5 in)	20–74			[54]
Sweden	1.815 m (5 ft 11½ in)	1.668 m (5 ft 5½ in)	20–29	Measured	2008	[55]
Switzerland	1.754 m (5 ft 9 in)	1.640 m (5 ft 4½ in)	20–74			[54]
Switzerland	1.781 m (5 ft 10 in)		Conscripts, 18–21	Measured	2005	[56]
Thailand	1.675 m (5 ft 6 in)	1.573 m (5 ft 2 in)	STOU university student	Self-reported	1991–1995	[57]
Turkey – Ankara	1.740 m (5 ft 8½ in)	1.589 m (5 ft 2½ in)	18-59	Measured	2004–2006	[58]
Turkey – Ankara	1.761 m (5 ft 9½ in)	1.620 m (5 ft 4 in)	18-29	Measured	2004–2006	[58]
Turkey – Edirne	1.737 m (5 ft 8½ in)	1.614 m (5 ft 3½ in)	17	Measured	2001	[59]
United Kingdom	1.772 m (5 ft 10 in)	1.634 m (5 ft 4½ in)	25-34	Measured	2007	[60]
United Kingdom	1.753 m (5 ft 9 in)	1.616 m (5 ft 3½ in)	Adults	Measured	2007	[60]

United States	1.763 m (5 ft 9½ in)	1.622 m (5 ft 4 in)	All Americans, 20+	Measured	2003–2006	[61]
United States	1.776 m (5 ft 10 in)	1.632 m (5 ft 4½ in)	All Americans, 20–29	Measured	2003–2006	[61]
United States	1.789 m (5 ft 10½ in)	1.638 m (5 ft 4½ in)	White Americans, 20–39	Measured	2003–2006	[61]
United States	1.780 m (5 ft 10 in)	1.632 m (5 ft 4½ in)	Black Americans, 20–39	Measured	2003–2006	[61]
United States	1.706 m (5 ft 7 in)	1.587 m (5 ft 2½ in)	Mexican-Americans, 20–39	Measured	2003–2006	[61]
Vietnam	1.65 m (5 ft 5 in)	1.53 m (5 ft 0 in)	Adolescents	Measured	2004	[62]
Vietnam	1.621 m (5 ft 4 in)	1.522 m (4 ft 12 in)	25–29	Measured	1992–1993	[14]

## Determinants of growth and height

The study of height is known as auxology. Growth has long been recognized as a measure of the health of individuals, hence part of the reasoning for the use of growth charts. For individuals, as indicators of health problems, growth trends are tracked for significant deviations and growth is also monitored for significant deficiency from genetic expectations. Genetics is a major factor in determining the height of individuals, though it is far less influential in regard to populations. Average height is increasingly used as a measure of the health and wellness (standard of living and quality of life) of populations. Attributed as a significant reason for the trend of increasing height in parts of Europe is the egalitarian populations where proper medical care and adequate nutrition are relatively equally distributed. Changes in diet (nutrition) and a general rise in quality of health care and standard of living are the cited factors in the Asian populations. Average height in the United States has remained essentially stagnant since the 1950s even as the racial and ethnic background of residents has shifted. Severe malnutrition is known to cause stunted growth in North Korean, portions of African, certain historical European, and other populations. Diet (in addition to needed nutrients; such things as junk food and attendant health problems such as obesity), exercise, fitness, pollution exposure, sleep patterns, climate (see Allen's rule and Bergmann's Rule for example), and even happiness (psychological well-being) are other factors that can affect growth and final height. <sup>[*citation needed*]</sup>



An example of humans' growth velocity under optimal conditions (Courtesy: Richard Steckel)

Height, like other phenotypic traits, is determined by a combination of genetics and environmental factors. A child's height based on parental heights is subject to regression toward the mean, therefore

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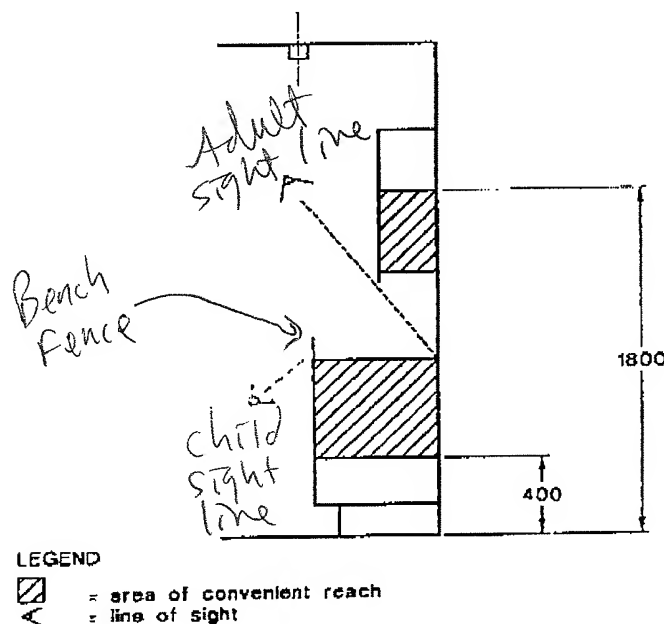
*Appendix D*

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## APPENDIX *D* ERGONOMICS (Informative)

**B1 GENERAL** The planning of a kitchen should be based on a knowledge of the users' ergonomic requirements. This basis should be used both for the design of individual units and for their assembly into parts of, or whole, kitchens. The design of handles, knobs, switches, hinges, right/left handling and the like should also be based on an ergonomic knowledge of the physical, mental and social capacity of the users, (see Figure B1).



DIMENSIONS IN MILLIMETRES

**FIGURE B1 ERGONOMIC REQUIREMENTS**

**B2 WORKING HEIGHTS, STANDING** The appropriate working heights for different activities when standing are:

- (a) For food preparation ..... 850 to 1000 mm.
- (b) For washing-up ..... 900 to 1050 mm.

A worktop level of 850 mm or 900 mm is preferred. To make allowance for differing statures and activities, a range at intervals of 50 mm up to 1050 mm is desirable. Adjustments in height can be made by different plinth heights and other means.

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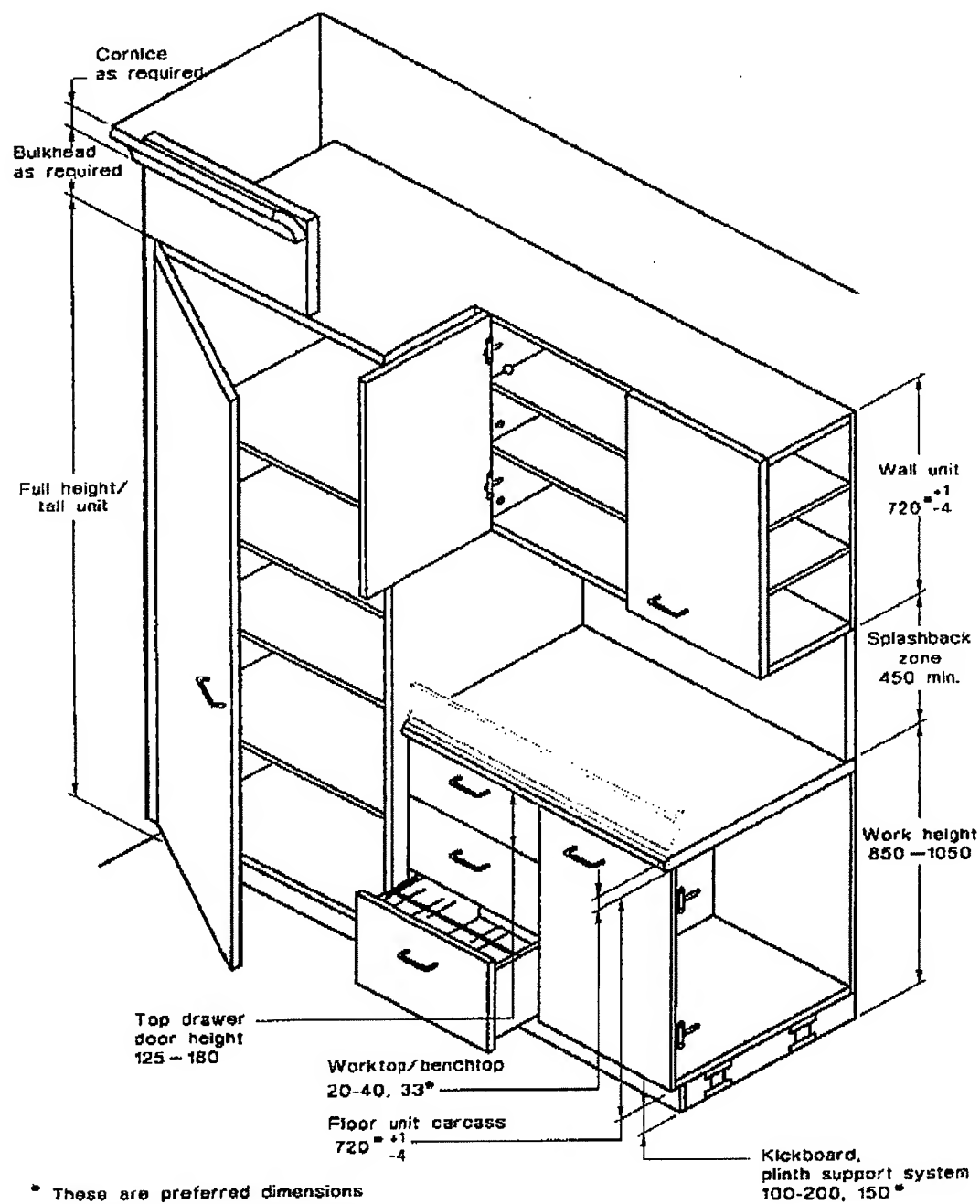
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DIMENSIONS IN MILLIMETRES

FIGURE 3 FUNCTIONAL DIMENSIONS—HEIGHTS